### Campos OBLIGATORIOS / NAHITAEZ bete beharreko eremuak

| **AÑO / URTEA (20xy):** 2015 | **Trabajo Fin de Grado (TFG) / Gradu Amaierako Lana (GAL)**  
**Trabajo Fin de Máster (TFM) / Master Amaierako Lana (MAL)** |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Título del TFG/TFM / GAL/MALaren izenburua:</strong> Cambio conceptual en la física del Sonido en Secundaria: Propuesta y evaluación</td>
<td></td>
</tr>
<tr>
<td><strong>Autor (Apellidos, Nombre) / Egilea (Deiturak, izena):</strong> García de Andoin Fernández, Estíbaliz Esther</td>
<td></td>
</tr>
<tr>
<td><strong>Director / Zuzendaria:</strong> María Napal Fraile</td>
<td><strong>UPNA / NUP</strong></td>
</tr>
<tr>
<td><strong>Codirector, si existe / Zuzendarikidea, halakorik badago</strong></td>
<td><strong>Otro (Indicar) / Beste bat (Jarri)</strong></td>
</tr>
</tbody>
</table>

**Otro (Indicar) / Beste bat (Jarri)**
The aim of this research was to evaluate and analyse the efficacy of a guided discovery learning proposal in understanding the physics of sound in second degree of secondary school.

In order to find out what the alternative conceptions about sound were, we analysed the students’ answers to two open-answer questionnaires that were taken from literature and textbooks to test their knowledge and understanding of the physics of sound. Questionnaires were carried out by the students before the intervention took place and after it.

Along the intervention, students accomplished several lab experiences through guided discovery where they led their own learning process, in order to provoke conceptual change and establishment of a scientific basis about sound.

The results were analyzed using systemic networks, to evaluate in a qualitative way the meaning of the given answers, according to their descriptions and representation of sound. The results show that involving students in their learning process can help modify students’ misconceptions and integrate scientific knowledge in their conceptual map. It should be taken into account that sound is a fundamental part of human relations, and therefore it becomes essential that the individuals get to know and understand its scientific aspects, avoiding being influenced by colloquial expressions that may lead to misconceptions in education.

**Materias o Palabras Clave (máximo 5) / Gaiak edo hitz gakoak (gehienez 5)**

educación secundaria, sonido, red sistémica, aprendizaje por descubrimiento guiado, cambio conceptual
**Abstract (Resumen de 100-250 palabras) // Abstract (Laburpena 100-250 hitzetan)**

**Materias o Palabras Clave (máximo 5) / Gaiak edo hitz gakoak (gehienez 5)**